

Appl. No. 10/677,015

Amdt. dated January 17, 2008

Reply to Office action of October 19, 2007

Remarks/Arguments

Claims 1, 4-7, 10-17 and 19-30 remain under prosecution in the application. Claims 1, 4, 6, 7, 11, 13, 15-17, 19, 20 and 30 are allowed.

Claims 5, 12, 24-26, and 28-29 stand rejected under 35 USC § 112. It is the Examiner's position that the specification does not reasonably provide enablement for mechanical extraction followed by caustic refining or for solvent extraction followed by physical refining.

Reconsideration and withdrawal of the rejection is respectfully requested.

Regarding claims 5, 24-25 and 29, the Examiner contends that applicants' specification at pages 7-8 states that "caustic refining is limited to oil that has been extracted using a solvent" and that "Free fatty acids are removed from mechanically extracted oil via physical refining and free fatty acid removal via physical refining is not feasible due to the large amount of non-hydratable phospholipids in the oil". Based on this interpretation of the specification, the Examiner then concludes that "the use of caustic refining of mechanically extracted oils and physical refining of solvent extracted oils is not enabled.

The Examiner's restatement of applicants' specification is inaccurate. When the specification is read as it is written and taken in context, it will be apparent that there is enablement for mechanical extraction followed by caustic refining and for solvent extraction followed by physical refining.

The relevant portions of pages 7-8 of applicants' specification, with underlining added, reads as follows:

"The first extracted oil may be further processed to remove free fatty acids and

components that contribute to the color and flavor of the oil. Free fatty acids in solvent extracted soybean oil are normally removed by a process known as caustic refining in which an alkali, e.g., potassium or sodium hydroxide is intimately mixed with the oil to react with the free fatty acids, producing soap stock that is removed by centrifugation. The process of caustic refining is *per se* known to one skilled in the art. While caustic refining may be used in the present invention, the partial oil extraction resulting from the lower ratio of solvent to oil also enables the solvent extracted oil to be refined using physical refining normally associated only with oil obtained through mechanical extraction.

Therefore, the above portion of applicants' specification in fact specifically teaches the suitability of solvent extraction followed by physical refining. Claims 12, 24-26 and 28-29 should accordingly be allowable. Claim 12 simply further defines the mechanical extraction conditions of allowed Claim 11. Claim 24 has been amended to specify solvent extraction. Claim 25 is a combination of physical or mechanical extraction followed by physical refining, both combinations being supported by the specification. Claim 29 requires solvent extraction in combination with refining. Since both caustic refining and physical refining are supported by the specification as noted above, this claim is believed to be allowable.

Regarding Claims 21 and 28, it is the Examiner's position that there is no support for the claimed 1:1 ratio. These claims have been amended to clarify that the ratio is the ratio of hexane to available soybean oil. Support for the ratio is found at page 6, ll. 6-8 of applicants' specification, which reads: "Normally, however, the ratio of solvent to available soybean oil in the present process will be less than the 1:1 ratio conventionally used in solvent extraction, e.g., from about 0.25:1 to about 0.95:1."

Claims 12 and 26 have been amended to address the rejection.

Claims 7, 10, 12, 14, 22 and 27 stand rejected under 35 USC § 112 as being indefinite in failing to particularly point out and distinctly claims the subject matter which applicant regards as the invention. Reconsideration and withdrawal of the rejection is respectfully requested for the

following reasons.

Regarding Claims 7, 12 and 14, Claim 7 provides the details of how the soybeans are mechanically extracted, while Claim 1 only states that the soybeans are mechanically extracted. Therefore, Claim 7 is believed to be appropriate as further defining the method. Claims 12 and 14 have been amended.

Claim 22 has been amended to address the Examiner's concern.

Claims 10, 23 and 27 are rejected under 35 USC § 112 as omitting essential steps, i.e., the steps need to transesterify the extracted soybean oil and convert the extracted second oil into a biodiesel fuel. Applicant's invention is not a new method for transesterification of soybean oil or a new method of making biodiesel fuel from soybean oil. Transesterification is a well-known process and, in fact, is the process most commonly used to produce biodiesel for soybean oil. The claims have been amended to clarify that the soybean oil is transesterified to produce biodiesel. Since transesterification and biodiesel are well known and the method of transesterification of the composition of biodiesel is not critical to applicants' invention, it is respectfully submitted that further elaboration is not required.

Accordingly, it is believed that this application is now in condition for allowance. Such action is respectfully solicited.

Respectfully submitted,



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